CLAIMS:

1. A computer tomograph,

- having a gantry, which contains a rotor rotating in the operating state about an axis of rotation and from which data is transferred,
- having at least one transmitter attached to the rotor for transmitting light in the direction of the axis of rotation, the light being modulated with the data,
- having at least one receiver mounted on the axis of rotation for receiving the light transmitted through the free space by the transmitter.

2. A computer tomograph as claimed in claim 1, having at least two transmitters, which are attached to the rotor offset with respect to one another.

3. A computer tomograph as claimed in claim 1, having a transmitter that transmits the light in at least two different directions.

4. A computer tomograph as claimed in claim 1, in which the spectrum of the transmitted light is divided into a plurality of regions and the light of the respective regions can be modulated with different data.

5. A computer tomograph as claimed in claim 4, in which each transmitter transmits the light of one region.

6. A computer tomograph as claimed in claim 4, in which a transmitter transmits light from a plurality of regions.

7. A computer tomograph as claimed in claim 1, in which the receiver comprises optical means for deflecting and/or scattering the light beams.

8. A computer tomograph as claimed in claim 1, in which the transmitter transmits laser light.

9. A computer tomograph as claimed in claim 4, in which the receiver is able to receive a plurality of spectral regions of the transmitted light separately from one another.

10. A computer tomograph as claimed in claim 1 having a plurality of receivers, which are arranged in succession on the axis of rotation.

11. A computer tomograph as claimed in claim 1 having a pivotable gantry and means for holding the position of the receiver on the axis of rotation when performing the pivoting movement.